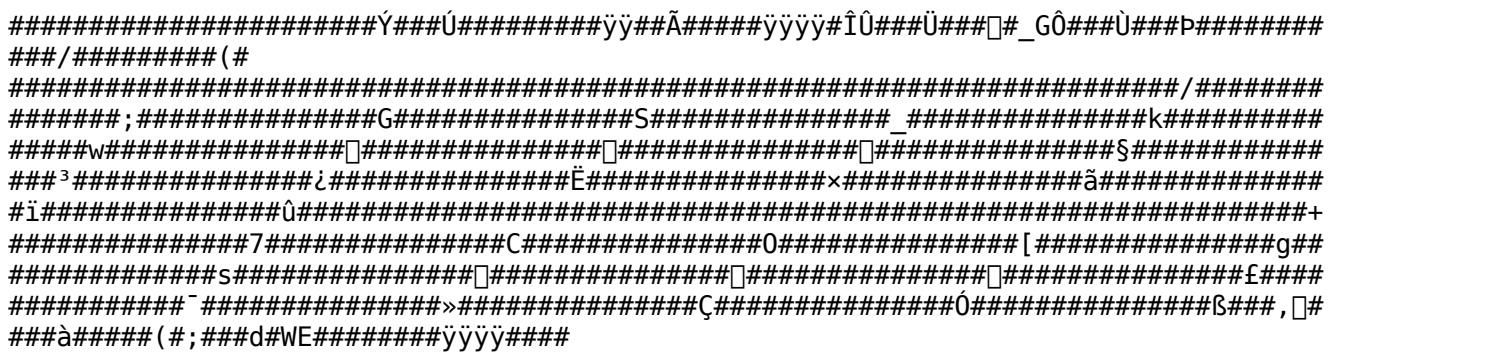

```
###0#0##-□A##################0##□##ÌøÁ#
´#□#ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ#########U###historical managementnew advances
hfv ecmo perinatal transplant #prenatal correction#
```

ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ#########□###defect found in south american mummies #dating 3rd century A.D.first described by Pare really traumatic #herniation1761 Morgagni noted association with #pulmonary hypoplasia1848 Bochdaleck professor University of #Prague attached his name to classic posterior #lateral defect in diaphragm1929 1st attempted repair Betman & Hess1945 repair by GrossGross series of 63 infants repaired with 55 #survivors

```
###0#0##H#-¾########D
      ######0####ÌøÁ#####ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ#########ã###classically 1
in 12,000 in text1 in 5,000 based on Norwegian study early #70's where all
neonatal deaths autopsied1 in 2,200 studies Puri and Gorman when #include still
birthsclassically anomalies in 23%with increase use of prenatal sonography
#incidence reported 40-50%cardiac 13% to 23% by Greenwood #coar/tet/tgv/vsdneuro
28% anencephaly/mylo/hydrocephalusGI 20% TEF/high imper anus/omphaloceleGU 15%
duplication collecting #system/hydronephrosisgenetics trisomy 21/13/18#
```

```
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###pleuroperitoneal membrane usually closes #dividing abdomen and thoracic
cavities by #8-10 weeksleft closes later than rightmidgut rotation occurs at same
time with #migration of gut back to abdominal cavity #from yolk stalkif gut
returns early or closure of membrane is #late or incomplete gut can herniate thru
#diaphragmatic defect90% herniation occurs thru posteriolateral #pleuroperitoneal
sinus80% left,15% right, 5% bilaterallater closure on left ,protection of liver on
#rightmuch less often herniation thru substernal #sinus foramen of morgagnifelt to
represent failure of lower ribs to fuse to #septumalso can herniate thru
esophageal hiatusmuch less common
```

#################0###
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#######Õÿ##÷ÿ####p###8-10 weeks bronchial buds16 weeks segmental bronchi24 weeks-5 years alveolar formationGrowth of blood vessels

```
###0#0#□@>□#################0##□##ÌøÁ#□###ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ#########Ì
###lung first appears during 4-8th week of fetal #development as ventral
diverticulum arising from embryo #foregut8-10 weeks bronchial buds of
mainstem/lobar10-14 weeks greatest activity of subsegmental #airway branchingby 16
weeks segmental bronchi completely #formedwith number of airway generations
similar to #adults24 weeks to 5 years alveolar formationpicture consistent with
retardation around 10 #weeksadult alveoli about 300 milliongrowth of blood vessels
parallel development #of airwaysgut herniation can effect pulmonary #development
leading to hypoplasialoss of generations of bronchi and bronchioles #and alveoli
possiblewide spectrum can be seennumber of alveoli on affected side 2-8 million
#compared to published newborn controls #17-70 millionintertwine gastric
dilatation secondary to #esophageal/duodneal obstruction can further #compromise
developmentincreased intrathoracic volume with #displacement and compression of
contralateral #side
```

```
#     #########   #####0###
#######     #########

###T#□###d#########Çÿ########0##□##TùÁþ¬#o#ÿÿ$###ÿÿ####Uÿ¥#ÿÿd#########Õÿ##÷ÿ####[
###Decreased chest movementShift of cardiac impulsePresence of bowel sounds
Scaphoid abdomen#
```

#O#ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ###########decreased chest movement on left
presence of bowel sounds on leftabsence of breath sound on leftshift of cardiac
impulse to rightscaphoid abdomen like little body buildery

###0#0######   ########ld######0##□##ÌøÁ#d#¯

ÿÿ####ÿÿ####Uÿ¥#ÿÿd#########äÿ#########@###cyanosis shortly after birth respiratory distressas infant begins to swallow/breath increased #gut distention worsening mediastinal shiftcreating in essence unusual form tension #pneumothorax x-ray findings show presence of abdominal #viscera in the chest usually stomachmay also include large intestine/liver/spleen

```
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#######Õÿ##÷ÿ####Z###Animal modelDecreased parenchymal massReduced surface area
Reduced pulmonary vasculature
```

```
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#####################T#□###d#########Çÿ########0##□###õùÿì
##ÿÿ$###ÿÿ####Uÿ¥#ÿÿd#########Õÿ##÷ÿ####|###Thickened pulmonary and arteriolar
mediaExtension muscle to resistance vesselsIncreased response to hypoxemia and
acidosis
```

```
#################0###
#####################T#□###d#########Çÿ########0##□##\öAÿ¤
      O#ÿÿ$###ÿÿ####Uÿ¥#ÿÿd#########Õÿ##÷ÿ####O###Bonn> 1/3 alveolar wall vessels
muscularized> 2X normal medial wall thickness#
```

```
#################0###
#####################T#□###d#########Çÿ########0##□##
´ô#ÿ##¯#ÿÿ$###ÿÿ####Uÿ¥#ÿÿd#########Õÿ##÷ÿ####□###Inconsistent site of sampling
Inconsistent time to repairNo ventilatory parameters referencedIntegration
pulmonary hypertension/hypoplasia
```

```
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####################T#□###d#########Çÿ########0##□##|õAÿ|
O#ÿÿ$###ÿÿ####Uÿ¥#ÿÿd#########Õÿ##÷ÿ####e###Partial reduction possibleNot
atelectasis but hypoplasiaRepair often decreased thoracic compliance #
```

#################0###
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#######Õÿ##÷ÿ####□###Limit airway pressureLimit oxygen toxicityEliminate shunting
Reverse systemic hypoxemiaReduce pulmonary blood flowAllow gradual expansion of
lung

```
#################0###
#####################T#□###d#########Çÿ########0##□###øqþü###ÿÿ$###ÿÿ####Uÿ¥#ÿÿd##
#######Õÿ##÷ÿ####f###AdzickTransplant as potential treatmentECMO as bridge until
surgeryLLL transplant in neonatal swine
```

```
# ######### #####,########### ######### ####ÿ□#ÿÿd#########d#########2##□##zöíü□
      ã#ÿÿ####ÿÿ#####ÿ¥#ÿÿd#########d#########R###Click to edit Master text styles
Second levelThird levelFourth levelFifth level
```

```
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:dc="http://purl.org/dc/elements/1.1/"
xmlns:dcterms="http://purl.org/dc/terms/"
xmlns:odoc="http://schemas.microsoft.com/office/internal/2005/internalDocumentatio
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schemaLocation="http://dublincore.org/schemas/xmls/qdc/2003/04/02/dc.xsd"/>
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schemaLocation="http://dublincore.org/schemas/xmls/qdc/2003/04/02/dcterms.xsd"/>
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<xsd:element name="revision" minOccurs="0" maxOccurs="1" type="xsd:string">
<xsd:annotation>
<xsd:documentation>
                        This value indicates the number of saves or revisions. The
application is responsible for updating this value after each revision.
                    </xsd:documentation>
</xsd:annotation>
</xsd:element>
<xsd:element name="lastModifiedBy" minOccurs="0" maxOccurs="1" type="xsd:string"/>
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</xsd:all>
</xsd:complexType>
</xsd:schema>
</ct:contentTypeSchema>###################<?xml version="1.0" encoding="UTF-8"
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xmlns:ds="http://schemas.openxmlformats.org/officeDocument/2006/customXml"/>######
#################################################<?mso-contentType?><FormTemplates
xmlns="http://schemas.microsoft.com/sharepoint/v3/contenttype/forms"><Display>Docu
mentLibraryForm</Display><Edit>DocumentLibraryForm</Edit><New>DocumentLibraryForm<
/New></FormTemplates>#####################################<?xml version="1.0"
encoding="UTF-8" standalone="no"?>
<ds:datastoreItem ds:itemID="{6DDDF480-C537-4BB8-B595-F9DF35297A6C}"
xmlns:ds="http://schemas.openxmlformats.org/officeDocument/2006/customXml"/>######
#################################################i#a#p#h#r#a#g#m#a#t#i#c#
#H#e#r#n#i#a# #L#e#c#t#u#r#e#
#O#u#t#l#i#n#e###########################################################þÿ#######
ÕÍÕ.##+,ù®#####ÕÍÕ.##+,ù®D####ÕÍÕ.##+,ù®l###(##################
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```